Prouts Neck Quadrangle, Maine

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Funding for the preparation of this map was provided by the Maine Geological Survey.

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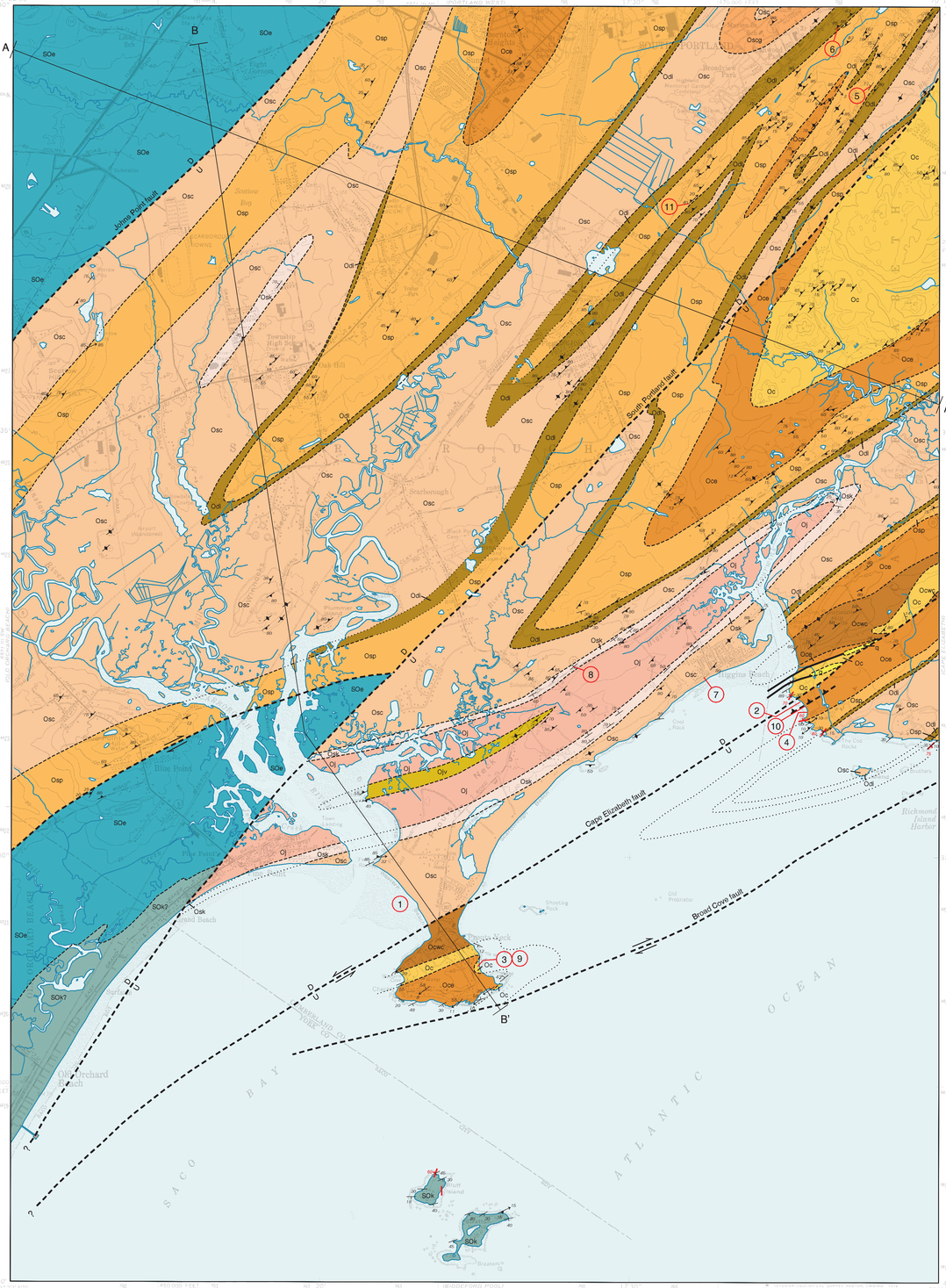
Open-File No. 03-95
2003

This map accompanied by an 8 p. report.

Bedrock Geology



SOURCES OF INFORMATION

Geologic mapping by A. M. Hussey II, 1970 - 2003.

Quadrangle Location

SCALE 1 : 24,000

1 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 0 1 KILOMETER

CONTOUR INTERVAL 20 FEET

TRUE NORTH

Topographic base from U.S. Geological Survey Prouts Neck quadrangle, scale 1:24,000 using standard U.S. Geological Survey topographic map symbols.

The use of industry, firm, or local government names on this map is for location purposes only and does not impute responsibility for any present or potential effects on the natural resources.

EXPLANATION OF UNITS

INTRUSIVE ROCKS

Mesozoic

Diabase and basalt dikes.

q Silicified zone related to fault.

STRATIFIED ROCKS

Early Silurian or Late Ordovician

MERRIMACK GROUP

SOk **Kittery Formation**. Fine-grained thin to medium interlayered calcareous and ankeritic medium buff-gray weathering plagioclase-rich chlorite-muscovite-quartzose phyllite and dark gray chlorite-muscovite phyllite. (Where queried in southwest part of map, SOk is inferred to be present on the basis of outcrop distribution in Old Orchard Beach 7 1/2' quadrangle to the west.)

SOe **Eliot Formation**. Fine-grained medium buff gray calcareous and ankeritic chlorite-muscovite quartz phyllite, with thin regularly alternating interlayers of dark gray chlorite-muscovite phyllite.

Middle to Late Ordovician

CASCO BAY SEQUENCE

Oj **Jewell Formation**. Rusty and non-rusty medium gray muscovite-chlorite-biotite-garnet-quartz phyllite.

Ojv Fine-grained chlorite-white mica-biotite-garnet plagioclase schist (similar to Spring Point green phyllite).

Osk **Spurwink Formation**. Fine-grained medium gray metamorphosed limestone with biotite and minor quartz; interbeds of fine-grained biotite-white mica-quartz phyllite.

Osc **Scarboro Formation**. Generally similar to Jewell Formation: both rusty and non-rusty fine-grained muscovite-chlorite-garnet phyllite with minor quartz and plagioclase (garnet zone); rusty and non-rusty muscovite-biotite-chlorite phyllite (biotite zone); rusty and non-rusty muscovite-chlorite phyllite (chlorite zone). Graphite commonly present in minor amounts.

Oscg **Unnamed volcanogenic member**. Medium greenish gray chlorite-garnet-quartz phyllite, generally non-rusty weathering.

Odi **Diamond Island Formation**. Black muscovite-quartz graphite phyllite, locally with abundant pyrite.

Osp **Spring Point Formation**. Medium greenish gray chlorite-white mica-garnet-quartz-plagioclase phyllite (chlorite zone; same, with biotite in biotite zone); actinolite-biotite-chlorite-plagioclase ± epidote schist, biotite-garnet-muscovite-plagioclase-epidote schist (garnet zone). Upper part of the Spring Point Formation in the area of the Spurwink River (garnet zone) consists of fine-grained quartz-plagioclase-garnet-biotite chlorite-tremolite(?) granofels.

Oce **Cape Elizabeth Formation**. Fine-grained medium gray quartz-plagioclase-muscovite-biotite-garnet schist, quartz-plagioclase-biotite granofels (garnet zone); same with relict staurolite in muscovite and chlorite pseudomorphs (staurolite zone).

Oc **Cushing Formation**. Light gray plagioclase-quartz-biotite-muscovite ± microcline granofels and gneiss, strongly lineated; medium greenish gray plagioclase-hornblende-biotite gneiss.

Ocwc **Wilson Cove Member**. Rusty weathering garnet-quartz-plagioclase-biotite ± grunerite granofels; minor rusty weathering quartz-plagioclase muscovite schist.

EXPLANATION OF SYMBOLS

Strike and dip of bedding. (inclined, vertical)

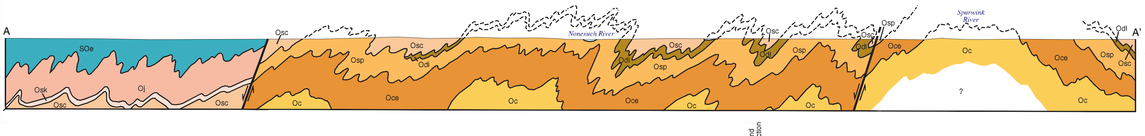
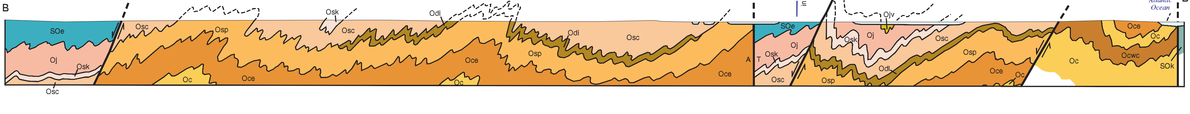
Strike and dip of cleavage, schistosity, or foliation. (inclined, vertical)

Direction and angle of inclination of lineations. (plunging, horizontal)

Stratigraphic or intrusive contact.

High angle mostly dip-slip fault (U - upthrown block; D-downthrown block).

High-angle mostly strike-slip fault (arrows indicate sense of motion).

High angle oblique-slip fault (arrows indicate sense of motion; U - upthrown block; D - downthrown block).

④ Photo locality